

**What is claimed is:**

1. A space saving cooking appliance (possibly will be titled as a mini microwave oven) comprising a case, a microwave cavity, a turntable, a machine compartment, a front door for inserting and removing food, the shape of said case is based on a shape of ellipsoid (Figs. 5, 6).
2. The mini microwave oven of claim 1 wherein said ellipsoid is formed by rotation of an ellipse around its vertical axis, and said ellipse is built on two axes, vertical and horizontal, where their ratio is within 1.0 (as a pure spheroid, or sphere, Fig. 5) and approximately 0.5 (as an ellipsoid, where its horizontal axis is twice as big as a vertical).
3. The mini microwave oven of claim 1 wherein said case has a flat bottom.
4. The mini microwave oven of claim 1 wherein said microwave cavity comprising a flat top 13, a flat bottom 11 and a wall, said wall has a shape of cylinder (40, Figs.13 and 14).
5. The mini microwave oven of claim 1 wherein said microwave cavity comprising a flat top 13, a flat bottom 11 and a wall, said wall has a shape of the barrel (44, Figs. 6, 15 and 16).
6. The mini microwave oven of claim 1 wherein said machine compartment 400 comprising a magnetron 410, an antenna 420 and a opening (hole) 430 in a flat top 13 (Figs.13, 14, 15 and 16), said opening is located in the center of said flat top and is fit with a cylindrical metallic orifice 431 (see new-drafted Fig. 17, supplied with this response).
7. The mini microwave oven of claim 6 wherein said antenna 420 is inserted inside the said cylindrical metallic orifice 431 to transmit the microwaves in the form of conical bundle 421 down into the microwave cavity under angle about 170 degrees (see Figs. 13-14 and 15-16).
8. The mini microwave oven of claim 7 wherein said conical bundle 421 consists of three different concentric-conical kinds of microwaves: **a-e** kind (on-wall falling), **f** kind (on-rings falling) and **g-i-g** kind (on-central-bottom falling) (see Figs.15 and 16), which all together create a mix of a highly large number resonant modes within circular cavity, where among them the **a-e** kind create a symmetrically polarized (splitted) microwaves, which after reflecting from wall intersect pairwise just inside the food, synergically oscillating its molecules.

9. The mini microwave oven of claim 6 wherein a lower part of said cylindrical metallic orifice 431 (see Fig. 17) swivels around a said antenna's vertical axis to experience continuously changing the falling and reflecting angles of said conical bundle of microwaves causing a uniform heating of food in order to sharply diminish the dependence on cumbersome turntable or even to eliminate it at all.

10. The mini microwave oven of claim 5 wherein an outer part of said flat bottom (11, Fig. 15 and 16) has a series of corrugated rings (11B) to deviate the f-kind of microwaves into the center lower zone of the cavity where the food is mostly underheated.

11. The mini microwave oven of claim 5 wherein the said barrel-shaped cavity wall 44 is built on the curve that a-e kind of microwaves, emitted from a single centrally located said antenna 420, would reflect and converge from said wall onto central part of said bottom 11A (g-i-g spot, Figs. 15, 16).

[An applicant's note: All three kinds of microwaves: - straight down falling on food from antenna (g-i-g), reflected from cavity wall (a-e) and reflected from bottom rings (f), - are directed into the central and lower part of the cavity to synergically heat the most deep and lower zones of the food. Only the barrel-shaped cavity wall along with a centrally located over the food single power source allows to create a multiple system of distribution].

12. The mini microwave oven of claim 10 wherein the center-bound slopes of said corrugated rings (11B) are leant under different angles: the slopes of most centrally placed rings are more steep while the most outer ones - more slopping in order to deviate and converge all the reflected from said rings microwaves into the most low and central zone of the cavity.

[Applicant's notes: 1). Claims are treated with provisional additional explanations to facilitate an understanding them. Final editing will be coordinated with Examiner]. 2). Since applicant's abilities to draft the claims are not perfect, he kindly asks the Examiner to help correct them].



Respectfully submitted

by:

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